

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In Re Application of: **MICHAEL R. COSLEY AND.**)
 RICHARD L. FISCHER)
Serial Number:)
))
Filed: Concurrently Herewith)
))
Continuation in Part of Application No. 10/047,871)
Filed: January 14, 2002)
))
Title: COOLING SYSTEM FOR DENSELY)
 PACKED ELECTRONIC COMPONENTS)
))
Art Unit: 3743)
Examiner: Tho Duong)
Attorney Docket No.: 560043620578)

MAIL STOP PATENT APPLICATION
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

INFORMATION DISCLOSURE STATEMENT

Dear Sir:

Applicants submit herewith patents of which they are aware, which they believe may be material to the examination of this application and in respect of which there may be a duty to disclose in accordance with 37 CFR 1.56. However, submitting this information is not intended to constitute an admission that any patent, publication or other information referred to herein either is "material" pursuant to 37 CFR 1.56 or is "prior art" for this invention.

In accordance with 37 CFR 1.97(g), (h), the filing of the Information Disclosure Statement shall not be construed to mean that a search has been made or that no other material information as defined in 37 CFR 1.56(b) exists.

A list of patent(s) and/or publications is set forth on the attached Form PTOL-1449.

Copies of all available patents are supplied herewith for the Examiner's convenience.

It is respectfully submitted that the present invention is deemed patentable over the cited references, whether taken singly or in combination. Applicants are submitting these references for consideration by the Examiner and for purposes of entering these citations in the official file in order to comply with their duty of candor.

If a fee is due, the Patent Office is authorized to debit our deposit account number 10-1202.

Respectfully submitted,

January 16, 2004

A handwritten signature in black ink, reading "James B. Raden", written over a horizontal line.

James B. Raden

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FORM PTO-1449
(Rev. 2-32)U.S. DEPARTMENT OF COMMERCE
PATENT AND TRADEMARK OFFICEATTY DOCKET NO.
560043620578CONTINUATION IN PART
APPLICATION OF
SERIAL NO.:
10/048,871INFORMATION DISCLOSURE
STATEMENT BY APPLICANT

(Use several sheets if necessary)

APPLICANT: Michael R. Cosley and Richard L. Fischer

FILING DATE:
Filed Concurrently Herewith

GROUP:

U.S. PATENT DOCUMENTS

EXAMINER INITIAL		DOCUMENT NUMBER							DATE	NAME	CLASS	SUB- CLASS	FILING DATE IF APPROPRIATE
	2003/	0	0	1	0	0	5	0	1/16/2003	Alexander Robin Scott			
		4	1	5	1	5	4	8	02/24/79	Klein et al.			
		6	0	3	9	1	1	4	03/21/2000	Becker et al.			
		5	7	6	9	1	5	4	06/23/98	Adkins et al.			
		5	1	7	9	5	0	0	01/12/93	Koubek et al.			
		5	2	2	0	8	0	9	06/22/93	Mark G. Voss			
		3	3	6	1	1	9	5	01/02/68	Meyerhoff et al.			
		5	1	5	9	5	2	9	10/27/92	Lovgren et al.			
		4	5	6	1	0	4	0	12/24/85	Eastman et al.			
		4	6	1	2	9	7	8	09/23/86	John M. Cutchaw			
		4	8	6	6	5	7	0	09/12/89	Warren W. Porter			
		5	3	1	6	0	7	5	05/31/94	Quon et al.			
		4	6	8	5	5	1	2	08/11/87	Edelstein et al.			
		5	5	8	7	8	8	0	12/24/96	Phillips et al.			
		5	0	0	5	6	4	0	04/09/91	Lapinski et al.			
		4	9	4	0	0	8	5	07/10/90	Nelson et al.			

FOREIGN PATENT DOCUMENTS

		DOCUMENT NUMBER							DATE	COUNTRY	CLASS	SUBCL ASS	TRANSLATION	
	WO	84/02177							06/07/84	World			YES	NO
														X

OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)

Little, William, March 1978, IBM Corp., Vol. 20 No. 10, page 3919

EXAMINER

DATE CONSIDERED

EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

(Form PTO-1449 [6-4])

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(Rev. 2-32)U.S. DEPARTMENT OF COMMERCE
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	4 3 9 2 3 6 2	7/12/83	William A. Little			
	4 4 9 8 1 1 8	2/5/85	David L. Bell			
	4 9 4 1 5 3 0	7/17/90	Lawrence E. Crowe			
	5 0 6 7 0 4 7	11/19/91	Kaveh Azar			
	5 0 8 8 0 0 5	2/11/92	Michael P. Ciaccio			
	5 0 9 9 3 1 1	3/24/92	Bonde et al.			
	5 0 9 9 9 1 0	3/31/92	Walpole et al.			
	5 1 6 9 3 7 2	12/8/92	Armand Tecco			
	5 1 8 3 1 0 4	2/2/93	Shiomo D. Novotay			
	5 2 1 8 5 1 5	6/8/93	Anthony F. Bernhardt			
	5 2 8 5 3 4 7	2/8/94	Fox et al.			
	5 3 6 5 7 4 9	11/22/94	Warren W. Porter			
	5 3 9 4 9 3 6	3/7/95	Gerald A. Budelman			
	5 5 0 9 4 6 8	4/23/96	Roger Lopez			

FOREIGN PATENT DOCUMENTS

DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	TRANSLATION
					YES NO

OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)

		"Pool Boiling Heat Transfer From Plain and Microporous, Square Pin-Finned Surfaces in Saturated FC-72"; K.N. Rainey and S.M. You; Journal of Heat Transfer, Vol 122, pgs. 509-516, August 2000
		"Effects of Perpendicular Flow Entry on Convective Heat/Mass Transfer From Pin-Fin Arrays"; Chyu et al.; Journal of Heat Transfer; Vol 121, Pgs. 668-674, August 1999
		"Pool Boiling Heat Transfer With an Array of Flush-Mounted, Square Heaters on a Vertical Surface"; S.M. You et al; Journal of Electronic Packaging; Vol. 119, Pgs. 17-24, March 1997
		"Combined Pressure and Subcooling Effects on Pool Boiling From a PPGA Chip Package"; A.A. Watwe et al; Journal of Electronic Packaging, Vol. 199, pgs. 95-105, June 1997
		"Analytic Modeling, Optimization, and Realization of Cooling Devices in Silicon Technology"; Perret et al.; IEEE Transactions on Components and Packaging Technologies, Vol. 23, No. 4, Pgs. 665-671, December 2000

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		5	5	4	4	6	9	6	8/13/96	John E. Leland			
		5	6	9	6	4	0	5	12/9/97	John David Weld			
		5	8	2	3	0	0	5	10/20/98	Alexander et al.			
		5	8	7	0	8	2	3	2/16/99	Bezama et al.			

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		DOCUMENT NUMBER							DATE	COUNTRY	CLASS	SUBCLASS	TRANSLATION	
													YES	NO

OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)

		"An Electrodynamic Polarization Micropump for Electronic Cooling"; J. Darabi and D. DeVoe; Journal of Microelectromechanical Systems, Vol. 10, No. 1, pgs. 98-106, March 2001
		"Heat Transfer from Micro-Finned and Flat Surfaces to Flow of Fluorinert Coolant; Boiling Heat Transfer"; Mizunuma et al.; 1998 InterSociety Conference on Thermal Phenomena, pgs. 386-391, August 1998
		"Imersion Cooling of Electronics in Fluidized Beds of Dielectric Particles"; Robert C. Brown and Scott S. Jasper; Heat Transfer Engineering, Vol. 10, No. 3 pgs. 36-42, 1989
		"Optimal Structure for Microgrooved Cooling Fin fo High-Power LSI Devices"; S. Sasaki and T. Kishimoto; Electronics & Mechanics Technology Laboratories, October 21, 1986
		"Gas Cooling Enhancement Technology for Integrated Circuit Chips"; Kishimoto et al.; IEEE Transactions of Components, Hybrids, and Manufacturing Technology, Vol. CHMT-7, No. 3, pgs. 286-293, September 1984
		"The Effect of Tip Convection on the Performance and Optimum Dimensions of Cooling Fins"; K. Laor and H. Kalman; Int. Comm. Heat mass Transfer, Vol. 19, pp. 569-584, 1992

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